

## Create Developed (Unrolled) Surfaces

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## INTRODUCTION

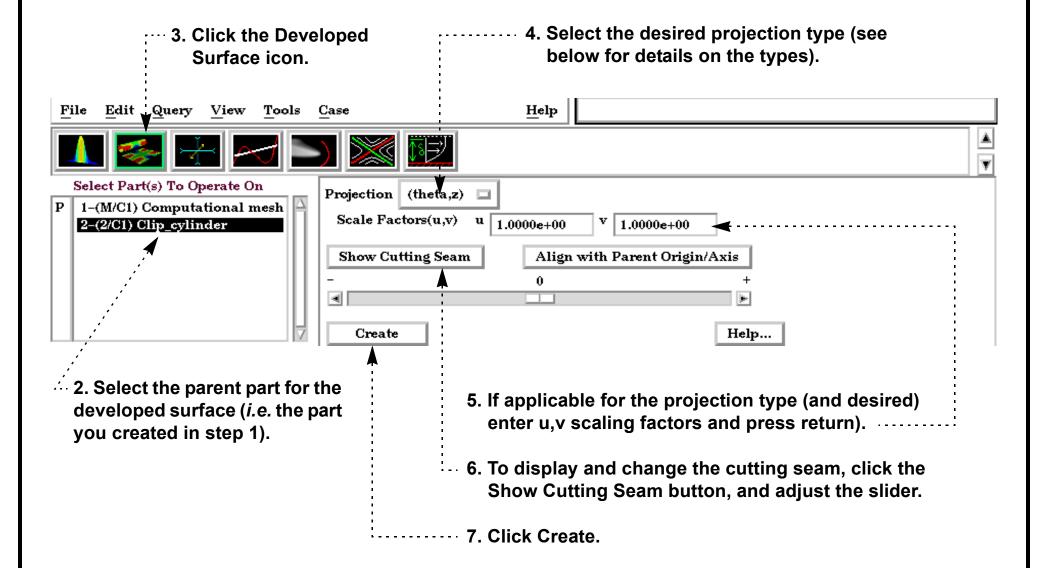
EnSight provides several sophisticated tools for extracting computational surfaces from meshes. For clipped surfaces with a defined axis of rotation (such as those created with the quadric clipping tools), the surface can "developed" or unrolled onto a plane. All variables defined on the clip are properly interpolated onto to the developed surface.

A clip can be developed based on curvilinear (radius, z), (theta, z), or (meridian, theta) coordinate projections. The "seam" of the clip can be specified interactively.

## **BASIC OPERATION**

To create a developed surface:

1. First, create the desired quadric clip (cylinder, sphere, or cone).



A part is developed by specifying one of three curvilinear mappings called *developed projections*. The projections are based on the curvilinear coordinates r (radius), z,  $\theta$  (theta), and m (meridian or longitude). These coordinates are defined relative to the local origin and axis of the tool that created the parent part (*e.g.* the Cylinder tool). The projections are (r,z), ( $\theta$ , z), and (m,  $\theta$ ). The u, v scale factors (only for ( $\theta$ , z) or (m,  $\theta$ ) projections) provide scaling for the coordinates in the listed order. For example, if the projection is ( $\theta$ , z) then u scales  $\theta$  and v scales z.

## SEE ALSO

**How To Create Quadric Clips** 

User Manual: Developed Surface Create/Update